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Maine Agricultural Experiment Station

BULLETIN No. 105.

JULY, 1904.

FERTILIZER INSPECTION.

This Bulletin contains the analyses of samples collected by the Station of the brands of Fertilizers licensed in 1904.

Requests for bulletins should be addressed to the
AGRICULTURAL EXPERIMENT STATION,
Orono, Maine.

MAINE

AGRICULTURAL EXPERIMENT STATION,

ORONO, MAINE.

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FERTILIZER INSPECTION.

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J. M. BARTLETT, Chemist in charge of Fertilizer Analysis.

The law regulating the sale of commercial fertilizers in this State calls for two bulletins each year. The first of these contains the analyses of the samples received from the manufacturer guaranteed to represent, within reasonable limits, the goods to be placed upon the market later. The second bulletin contains the analyses of the samples collected in the open market by a representative of the Station.

The analyses of the manufacturers' samples for this year were published in March. A number of samples were received so late that the analyses could not be included in the bulletin then issued. The results of these analyses will be sent on application.

In the following tables are given the analyses of the samples of commercial fertilizers collected in the open market in the spring of 1904 by the Station representative. As far as possible two samples of each brand were taken, an effort being made to get the duplicate from a distinct lot of the same brand in a different part of the State. If the first sample of a brand analyzed fell below the guarantee, the duplicate of that sample, if one were at hand, was also analyzed. Consequently the analyses of about fifty duplicate samples appear in the table. In some instances the second analysis agrees quite closely with the first, but frequently it is quite different, indicating that the goods are subject to considerable variation.

An inspection of these figures shows that a large number of the brands do not come quite up to the guarantee. This is especially true of some companies and while in most instances the deficiency is slight, yet the differences are greater than

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DESCRIPTIVE LIST OF STATION SAMPLES, 1904.

Station number.	Manufacturer, place of business and brand.	Sampled at
THE AMERICAN AGRIC. CHEMICAL CO., N. Y.		
3326	Bradley's Alkaline Bone and Potash	Portland
3327	Bradley's Complete Manure for Potatoes and Vegetables.....	Portland
3310	Bradley's Complete Manure for Potatoes and Vegetables.....	Bangor
3328	Bradley's Complete Manure with 10% Potash.	Portland
3511	Bradley's Complete Manure with 10% Potash.....	Bangor
3329	Bradley's Corn Phosphate	Portland
3330	Bradley's Eureka Fertilizer	Portland ..
3331	Bradley's Niagara Phosphate.....	Portland
3332	Bradley's Potato Fertilizer	Bangor
3333	Bradley's Potato Manure	Bangor
3334	Bradley's X L Superphosphate of Lime	Bangor ..
3512	Bradley's X L Superphosphate of Lime	Portland
3335	Clark's Cove Bay State Fertilizer	Bangor
3513	Clark's Cove Bay State Fertilizer	Portland
3336	Clark's Cove Bay State Fertilizer G. G.	Bangor
3337	Clark's Cove Bay State Fertilizer for Seeding Down.....	Bangor
3514	Clark's Cove Bay State Fertilizer for Seeding Down.....	Portland
3338	Clark's Cove Defiance Complete Manure.	Bangor.....
3339	Clark's Cove Great Planet Manure A A	Bangor
3515	Clark's Cove Great Planet Manure A A	Portland
3340	Clark's Cove King Philip Alkaline Guano.	Bangor
3516	Clark's Cove King Philip Alkaline Guano.....	Portland
3341	Clark's Cove Potato Fertilizer	Portland
3342	Clark's Cove Potato Manure.....	Bangor.
3343	Cleveland Fertilizer for All Crops....	Bangor
3344	Cleveland High Grade Complete Manure.....	Bangor
3345	Cleveland Potato Phosphate	Bangor
3346	Cleveland Seeding Down Fertilizer.....	Bangor
3347	Cleveland Superphosphate ..	Bangor ..
3348	Complete Manure with 10% Potash	Houlton
3349	Crocker's Aroostook Potato Special	Bangor
3517	Crocker's Aroostook Potato Special	Portland ..
3350	Crocker's Ammoniated Corn Phosphate.....	Bangor ..
3518	Crocker's Ammoniated Corn Phosphate	Portland
3351	Crocker's Grass and Oats Fertilizer	Bangor ..
3519	Crocker's Grass and Oats Fertilizer	Portland ..
3352	Crocker's New Rival Ammoniated Superphosphate.....	Bangor ..
3520	Crocker's New Rival Ammoniated Superphosphate	Portland ..
3353	Crocker's Potato, Hop and Tobacco ..	Bangor
3521	Crocker's Potato, Hop and Tobacco.....	Portland ..
3354	Crocker's Special Potato Manure	Bangor
3522	Crocker's Special Potato Manure	Portland ..
3355	Cumberland Guano for All Crops	Bangor
3356	Cumberland Potato Fertilizer..	Bangor ..
3357	Cumberland Seeding Down Manure	Bangor ..

ANALYSES OF STATION SAMPLES, 1904.

Station number.	NITROGEN.				PHOSPHORIC ACID.								POTASH.	
	Soluble in Water.	Insoluble in Water.	Total.		soluble.	Reverted.	Insoluble.	Available.		Total.		Found.	Guaranteed.	
			Found.	Guaranteed.				Found.	Guaranteed.	Found.	Guaranteed.			
	%	%	%	%	%	%	%	%	%	%	%	%	%	
3326	.....	.....	....	.....	6.60	3.25	2.08	9.85	11.00	11.93	12.00	2.16	2.00
3327	1.30	1.43	2.73	3.30	2.22	5.59	2.88	7.81	8.00	10.69	9.00	6.09	7.00	
3510	1.81	1.69	3.40	3.30	3.72	4.41	3.19	8.13	8.00	11.32	9.00	7.31	7.00	
3328	1.80	1.44	3.24	3.30	2.38	3.79	2.65	6.17	6.00	8.82	7.00	10.83	10.00	
3511	0.78	2.52	3.30	3.30	3.56	3.47	4.13	7.03	6.00	11.16	7.00	11.21	10.00	
3329	1.01	1.13	2.14	2.06	4.83	4.10	3.27	8.93	8.00	12.20	10.00	1.80	1.50	
3330	0.63	0.51	1.14	1.03	5.14	3.20	1.90	8.34	8.00	10.24	10.00	2.23	2.00	
3331	0.47	0.71	1.18	0.82	5.42	2.92	2.51	8.34	7.00	10.85	8.00	2.18	1.00	
3332	0.67	1.55	2.22	2.06	5.71	2.22	3.55	7.93	8.00	11.48	10.00	3.66	3.00	
3333	1.31	1.29	2.60	2.50	5.42	1.72	2.91	7.14	6.00	10.05	8.00	5.93	5.00	
3334	0.97	1.29	2.26	2.50	7.24	1.94	2.62	9.18	9.00	11.80	11.00	2.24	2.00	
3512	1.01	1.23	2.24	2.50	5.26	4.90	2.96	9.16	9.00	12.12	11.00	2.23	2.00	
3335	0.93	1.51	2.44	2.50	5.77	2.64	2.74	8.41	9.00	11.15	11.00	2.45	2.00	
3513	1.03	1.49	2.52	2.50	6.64	3.41	2.27	9.05	9.00	11.32	11.00	2.40	2.00	
3336	0.93	1.39	2.32	2.06	5.74	2.32	2.55	8.06	8.00	10.61	10.00	1.71	1.50	
3337	0.43	0.71	1.14	1.03	4.19	3.13	2.87	7.32	8.00	10.19	10.00	2.19	2.00	
3514	0.77	0.43	1.20	1.03	4.31	5.86	2.32	10.17	8.00	12.49	10.00	2.19	2.00	
3338	0.33	0.49	0.82	0.82	5.89	2.04	1.37	7.93	7.00	9.30	8.00	1.40	1.00	
3339	1.33	2.09	3.42	8.30	4.19	3.40	3.02	7.59	8.00	10.61	9.00	7.77	7.00	
3515	1.61	1.73	3.34	3.30	3.56	4.63	2.97	8.19	8.00	11.16	9.00	6.95	7.00	
3340	0.43	0.65	1.08	1.03	4.83	3.09	2.54	7.92	8.00	10.46	10.00	2.11	2.00	
3516	0.57	0.57	1.14	1.03	4.55	4.12	2.42	8.67	8.00	11.05	10.00	2.16	2.00	
3341	0.99	0.95	1.94	2.06	5.30	2.78	2.93	8.08	8.00	11.01	10.00	3.17	3.00	
3342	1.27	1.29	2.56	2.50	4.66	2.26	3.06	6.92	6.00	9.98	8.00	5.62	5.00	
3343	0.55	0.53	1.08	1.03	5.10	2.67	2.09	7.96	8.00	10.05	10.00	2.09	2.00	
3344	1.22	2.15	3.37	3.30	5.12	2.46	2.82	7.58	8.00	10.40	9.00	7.65	7.00	
3345	0.55	1.55	2.10	2.06	6.06	2.41	1.80	8.47	8.00	10.27	10.00	3.02	3.00	
3346	0.55	0.49	1.04	1.03	4.82	3.20	2.42	9.02	8.00	11.44	10.00	2.04	2.00	
3347	0.81	1.27	2.08	2.06	3.40	4.58	2.23	7.98	8.00	10.21	10.00	1.81	1.50	
3348	2.21	0.91	3.12	3.30	3.19	2.45	2.14	5.64	6.00	7.78	7.00	9.74	10.00	
3349	1.06	0.87	1.93	2.06	5.71	1.75	2.99	7.46	8.00	10.45	.....	6.11	6.00
3517	0.75	1.31	2.06	2.06	5.76	4.01	3.42	9.77	8.00	13.19	.....	6.41	6.00
3350	1.05	0.85	1.90	2.06	3.96	5.06	2.14	9.02	8.00	11.16	.....	1.71	1.50
3518	1.45	0.93	2.38	2.06	4.47	3.17	3.89	7.64	8.00	11.55	....	1.93	1.50
3351	.....	.....	.....	.....	6.52	3.23	2.02	9.75	11.00	11.77	.....	2.12	2.00
3519	.....	.....	.....	.....	7.03	2.97	1.63	10.00	11.00	11.63	.....	2.27	2.00
3352	0.67	0.45	1.12	1.03	4.78	2.91	2.36	7.69	8.00	10.05	.....	1.97	2.00
3520	0.61	0.55	1.16	1.03	6.14	1.96	2.03	8.10	8.00	10.13	.....	2.09	2.00
3353	0.67	1.41	2.08	2.06	5.82	1.76	2.42	7.58	8.00	10.00	.....	3.12	3.00
3521	0.69	1.07	1.76	2.06	4.47	3.04	3.10	7.51	8.00	10.61	.....	3.26	3.00
3354	0.63	2.61	3.24	3.29	3.70	1.93	4.55	5.63	6.00	10.18	.....	10.90	10.00
3522	0.74	1.59	2.33	3.29	4.48	4.25	2.60	8.33	6.00	10.93	.....	9.66	10.00
3355	0.65	0.49	1.14	1.03	5.26	2.74	1.94	8.00	8.00	9.94	10.00	2.15	2.00	
3356	0.67	1.73	2.40	2.06	6.09	3.35	1.88	9.44	8.00	11.32	10.00	3.09	3.00	
3357	0.43	0.83	1.26	1.03	5.18	3.47	2.79	8.65	8.00	11.44	10.00	2.09	2.00	

DESCRIPTIVE LIST OF STATION SAMPLES, 1904.

Station number.	Manufacturer, place of business and brand.	Sampled at
3358	Cumberland Superphosphate.....	Bangor.....
3359	Darling's Blood, Bone and Potash	Houlton
3360	Great Eastern General Fertilizer.....	Bangor.....
3361	Great Eastern Grass and Oats Fertilizer	Bangor.....
3523	Great Eastern Grass and Oats Fertilizer	Portland
3362	Great Eastern High Grade Potato Manure ...	Bangor.....
3363	Great Eastern Northern Corn Special....	Bangor.....
3364	Great Eastern Potato Manure	Bangor.....
3524	Great Eastern Potato Manure	Portland
3365	High Grade Fertilizer with 10% Potash.....	Houlton
3366	Lazaretto Aroostook Potato Guano.....	Bangor.....
3367	Lazaretto Corn Guano.....	Bangor.....
3368	Lazaretto High Grade Potato Guano	Bangor.....
3369	Lazaretto Propeller Potato Guano.....	Bangor.....
3370	Lazaretto Wheat, Oats and Clover Fertilizer ..	Bangor.....
3371	Otis' Potato Fertilizer.....	Skowhegan ..
3372	Otis' Seeding Down Fertilizer.....	Skowhegan ..
3373	Otis' Superphosphate	Skowhegan ..
3374	Pacific Dissolved Bone and Potash	Portland
3375	Pacific Grass and Grain Fertilizer	Portland
3525	Pacific Grass and Grain Fertilizer ..	Bangor.....
3376	Pacific High Grade General Fertilizer	Bangor.....
3377	Pacific Nobsque Guano.....	Bangor.....
3378	Pacific Potato Special ..	Bangor.....
3379	Packer's Union Animal Corn Fertilizer	Bangor.....
3526	Packer's Union Animal Corn Fertilizer	Portland
3380	Packer's Union Economical Vegetable Guano.....	Bangor.....
3381	Packer's Union Gardener's Complete Manure.....	Bangor.....
3382	Packer's Union Potato Manure.....	Bangor.....
3383	Packer's Union Universal Fertilizer ..	Bangor.....
3384	Packer's Union Wheat, Oats and Clover Fertilizer	Bangor.....
3385	Quinnipiac Climax Phosphate for All Crops.....	Bangor.....
3386	Quinnipiac Corn Manure.....	Bangor.....
3387	Quinnipiac Market Garden Manure.....	Houlton.....
3388	Quinnipiac Mohawk Fertilizer	Portland ..
3389	Quinnipiac Potato Manure.....	Bangor.....
3527	Quinnipiac Potato Manure	Portland
3390	Quinnipiac Potato Phosphate	Portland
3391	Quinnipiac Seeding Down Manure.....	Portland ..
3392	Read's Farmer's Friend	Portland ..
3528	Read's Farmer's Friend	Bangor.....
3393	Read's High Grade Farmer's Friend.....	Houlton.....
3394	Read's Potato Manure.....	Bangor.....
3395	Read's Practical Potato Special	Bangor.....
3396	Read's Standard Superphosphate	Bangor.....

ANALYSES OF STATION SAMPLES, 1904.

Station number.	NITROGEN.					PHOSPHORIC ACID.						POTASH.	
	Soluble in water.	Insoluble in water.	Total.			Soluble.	Reverted.	Insoluble.	Available.		Total.	Found.	Guaranteed.
			Found.	Guaranteed.					Found.	Guaranteed.	Found.		
%	%	%	%	%	%	%	%	%	%	%	%	%	%
3358	0.83	1.35	2.18	2.06	5.93	2.61	2.58	8.54	8.00	11.12	10.00	1.71	1.00
3359	2.38	1.45	3.83	4.16	3.64	3.57	2.36	7.21	7.06	9.57	8.00	7.53	7.00
3360	0.69	0.33	1.02	0.82	6.38	1.66	1.63	8.04	8.00	9.67	.....	4.28	4.00
3361	.....	.....	.....	.....	4.98	4.71	2.35	9.69	11.00	12.04	.....	2.31	2.00
3362	.....	.....	.....	.....	6.84	3.40	1.85	10.24	11.00	12.09	.....	2.28	2.00
3362	0.77	2.65	3.42	3.29	3.64	2.59	4.30	6.23	6.00	10.53	.....	11.17	10.00
3363	1.05	1.25	2.30	2.06	5.95	2.11	2.87	8.06	8.00	10.93	.....	1.82	1.50
3364	0.63	1.45	2.08	2.06	5.58	2.17	2.17	7.75	8.00	9.92	.....	3.34	3.00
3524	0.64	0.98	1.62	2.06	4.16	5.38	2.74	9.54	8.00	12.28	.....	3.27	3.00
3365	1.17	1.29	2.46	2.40	3.48	3.74	2.49	7.22	6.00	9.71	7.00	10.18	10.00
3366	0.67	0.49	1.16	0.82	4.18	3.45	2.42	7.63	8.00	10.05	.....	3.76	4.00
3367	1.17	0.67	1.84	1.64	4.55	3.08	3.06	7.63	8.00	10.69	.....	2.11	2.00
3368	1.67	1.57	3.24	3.29	3.43	1.98	3.55	5.41	6.00	8.96	.....	10.83	10.00
3369	1.05	0.91	1.96	2.06	5.58	2.73	2.93	8.31	8.00	11.24	.....	5.88	6.00
3370	.....	.....	.....	.....	6.19	5.33	2.60	11.52	11.00	14.12	.....	2.07	2.00
3371	1.05	1.09	2.14	2.06	4.85	2.75	2.93	7.60	8.00	10.53	10.00	3.03	3.00
3372	0.55	0.59	1.14	1.03	5.31	2.92	3.11	8.23	8.00	11.34	10.00	2.06	2.00
3373	1.07	1.13	2.20	2.06	3.72	6.23	2.30	9.95	8.00	12.25	10.00	1.72	1.50
3374	.....	.....	.....	.....	5.65	3.81	2.87	9.46	10.00	12.33	11.00	2.17	2.00
3375	0.33	0.79	1.12	0.82	2.81	3.94	3.06	5.75	7.00	9.81	8.00	1.00	1.00
3325	0.23	0.53	0.76	0.82	5.68	1.45	2.26	7.13	7.00	9.39	8.00	1.34	1.00
3376	2.27	1.57	3.84	3.30	3.59	4.39	2.59	7.98	8.00	9.67	9.00	6.49	7.00
3377	0.45	0.79	1.24	1.03	5.89	4.01	2.54	9.90	8.00	12.44	10.00	2.14	2.00
3378	1.22	0.79	2.01	2.06	4.91	3.65	3.48	8.56	8.00	12.04	10.09	3.28	3.00
3379	0.95	1.51	2.46	2.47	5.98	2.41	2.90	8.39	9.00	11.29	.....	2.32	2.00
3326	1.43	1.23	2.66	2.47	6.97	4.75	2.76	11.72	9.00	14.48	.....	2.15	2.00
3380	0.71	0.55	1.26	1.25	4.86	2.46	2.49	7.32	6.00	9.81	.....	3.71	3.00
3381	0.45	1.77	2.22	2.47	4.31	2.09	3.25	6.40	6.00	9.65	.....	10.35	10.00
3382	0.75	1.25	2.00	2.06	6.22	2.53	2.70	8.75	8.00	11.45	.....	6.07	6.00
3383	0.49	0.57	1.06	0.82	3.51	4.64	4.29	8.15	8.00	12.44	.....	3.80	4.00
3384	.....	.....	.....	.....	6.62	5.24	1.62	11.86	11.00	13.48	.....	2.13	2.00
3385	0.76	0.67	1.43	1.03	5.02	3.32	1.96	8.34	8.00	10.30	10.00	2.78	2.00
3386	0.97	1.37	2.34	2.06	6.87	3.02	2.63	9.89	8.00	12.52	10.00	1.78	1.50
3387	1.68	1.39	3.07	3.30	3.96	3.70	2.50	7.66	8.00	10.16	9.00	6.48	7.00
3388	0.29	0.59	0.88	0.82	5.41	1.70	1.76	7.11	7.00	8.87	8.00	1.13	1.00
3389	1.23	1.23	2.46	2.50	5.30	1.29	3.04	6.59	6.00	9.82	8.00	5.48	5.00
3527	1.20	1.11	2.31	2.50	2.47	4.90	2.65	7.37	6.00	10.02	8.00	5.01	5.00
3390	1.23	0.83	2.06	2.06	4.74	3.24	4.24	7.98	8.00	12.22	10.00	2.82	3.00
3391	0.37	0.69	1.06	1.03	6.06	2.58	3.60	8.64	8.00	12.34	10.00	1.92	2.00
3392	0.77	1.47	2.24	2.06	6.76	1.04	2.70	8.70	8.00	11.40	10.00	2.82	3.00
3528	0.53	1.81	2.34	2.06	5.87	1.53	1.48	7.40	8.00	8.88	10.00	3.18	3.00
3393	2.21	0.91	3.12	3.30	3.19	2.45	2.14	5.64	6.00	7.78	7.00	9.74	10.00
3394	2.33	1.29	3.62	2.40	2.03	5.04	1.86	7.07	6.00	8.93	7.00	11.36	10.00
3395	0.69	0.29	0.98	0.82	2.09	2.86	3.22	4.95	4.06	8.17	5.00	10.04	8.00
3396	0.45	0.79	1.24	0.82	3.78	4.48	2.98	8.26	8.00	11.24	10.00	4.26	4.00

DESCRIPTIVE LIST OF STATION SAMPLES, 1904.

Station number.	Manufacturer, place of business and brand.	Sampled at
3397	Read's Sure Catch Fertilizer.....	Bangor.....
3398	Read's Vegetable and Vine Fertilizer.....	Bangor.....
3399	Soluble Pacific Guano	Portland.....
3400	Standard A Brand	Portland.....
3401	Standard Bone and Potash	Portland.....
3529	Standard Bone and Potash.....	Bangor.....
3402	Standard Complete Manure.....	Bangor.....
3403	Standard Fertilizer	Bangor.....
3404	Standard Guano for All Crops.....	Bangor.....
3405	Standard Special for Potatoes	Bangor.....
3406	Williams and Clark's Americus Ammo. Bone Superphosphate	Portland.....
3407	Williams and Clark's Americus Corn Phosphate.....	Portland.....
3530	Williams and Clark's Americus Corn Phosphate.....	Bangor.....
3408	Williams and Clark's Americus High Grade Special	Bangor.....
3409	Williams and Clark's Americus Potato Manure	Bangor.....
3531	Williams and Clark's Americus Potato Manure	Portland.....
3410	Williams and Clark's Americus with 10% Potash.....	Bangor.....
3411	Williams and Clark's Royal Bone Phosphate for All Crops...	Portland.....
3412	High Grade Sulphate of Potash.....	Houlton.....
3413	Muriate of Potash.....	Portland.....
3414	Nitrate of Soda	Bangor.....
THE BOWKER FERTILIZER CO., BOSTON, MASS.		
3415	Bowker's Bone and Potash Square Brand.....	Portland.....
3416	Bowker's Bone and Wood-Asb Fertilizer.....	Bangor.....
3417	Bowker's Bone, Blood and Potash	Houlton.....
3418	Bowker's Corn Phosphate	Portland.....
3532	Bowker's Corn Phosphate	Bangor.....
3419	Bowker's Early Potato Manure	Portland.....
3533	Bowker's Early Potato Manure	Bangor.....
3420	Bowker's Farm and Garden Phosphate	Portland.....
3534	Bowker's Farm and Garden Phosphate	Bangor.....
3421	Bowker's Fresh Ground Bone	Portland.....
3422	Bowker's Hill and Drill Phosphate	Portland.....
3535	Bowker's Hill and Drill Phosphate	Bangor.....
3423	Bowker's Market Garden Fertilizer	Bangor.....
3424	Bowker's Potash Bone	Bangor.....
3425	Bowker's Potash or Staple Phosphate.....	Bangor.....
3426	Bowker's Potato and Vegetable Fertilizer.....	Bangor.....
3536	Bowker's Potato and Vegetable Fertilizer	Portland.....
3427	Bowker's Potato and Vegetable Phosphate.....	Bangor.....
3537	Bowker's Potato and Vegetable Phosphate.....	Portland.....
3428	Bowker's Six Per Cent Fertilizer	Bangor.....
3429	Bowker's Superphosphate with Potash for Grass and Grain..	Bangor.....
3430	Bowker's Sure Crop Phosphate	Portland.....
3431	Bowker's Ten Per Cent Manure	Bangor.....
3432	Stockbridge Corn and Grain Manure	Portland.....

ANALYSES OF STATION SAMPLES, 1904.

Station number.	NITROGEN.				PHOSPHORIC ACID.								POTASH.	
	Soluble in water.	Insoluble in water.	Total.		Soluble.	Reverted.	Insoluble.	Available.		Total.		Found.	Guaranteed.	
			Found.	Guaranteed.				Found.	Guaranteed.	Found.	Guaranteed.			
	%	%	%	%	%	%	%	%	%	%	%	%	%	
3397	.....	.....	.....	.....	7.13	3.37	1.45	10.50	10.00	11.95	11.00	2.21	2.00
3398	0.97	0.97	1.94	2.06	5.42	2.80	2.93	8.22	8.00	11.15	10.00	6.45	6.00	
3399	1.09	1.07	2.16	2.06	4.23	3.63	3.50	7.86	8.00	11.36	10.00	1.80	1.50	
3400	0.61	0.53	1.14	0.82	5.26	2.74	2.32	8.00	7.00	10.32	8.00	2.20	1.00	
3401	.....	.....	.....	.....	6.43	3.10	2.58	9.53	10.00	12.11	11.00	2.13	2.00
3529	.....	.....	.....	.....	6.84	3.21	1.67	10.05	10.00	11.72	11.00	2.28	2.00
3402	0.08	2.15	2.23	3.30	4.55	4.09	3.69	8.64	8.00	12.33	9.00	7.27	7.00	
3403	1.13	1.01	2.14	2.06	5.69	2.75	3.57	8.44	8.00	12.01	10.00	1.86	1.50	
3404	0.53	0.59	1.12	1.03	4.77	4.06	2.30	8.83	8.00	11.13	10.00	2.18	2.00	
3405	0.71	1.59	2.30	2.06	6.06	2.95	2.11	9.01	8.00	11.12	10.00	3.16	3.00	
3406	1.57	0.97	2.54	2.50	8.10	2.96	2.07	11.06	9.00	13.13	11.00	2.11	2.00	
3407	1.23	1.15	2.38	2.06	4.27	3.58	3.16	7.85	8.00	11.01	10.00	1.73	1.50	
3530	1.11	0.81	1.92	2.06	4.80	4.25	2.59	9.05	8.00	11.64	10.00	1.61	1.50	
3408	0.91	1.95	2.86	3.30	4.10	3.34	3.13	7.44	8.00	10.57	9.00	6.40	7.00	
3409	1.19	0.91	2.10	2.06	3.35	4.58	3.16	7.93	8.00	11.09	10.00	3.47	3.00	
3531	0.55	1.63	2.18	2.06	6.14	2.47	1.53	8.61	8.00	10.14	10.00	3.03	3.00	
3410	1.51	1.79	3.30	2.40	4.75	1.30	2.96	6.05	6.00	9.01	7.00	10.02	10.00	
3411	0.55	0.65	1.20	1.03	6.06	1.88	2.51	7.94	8.00	10.45	10.00	2.41	2.00	
3412	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	46.00	48.00
3413	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	49.64	50.00
3414	15.23	0.00	15.23	15.00	.....	.....	.....	.....	.....	.....	.....	.....	.....
3415	0.73	1.15	1.88	1.65	5.50	3.94	2.78	9.44	6.00	12.22	7.00	2.09	2.00	
3416	0.65	1.05	1.70	1.65	3.86	3.22	3.33	7.08	8.00	10.41	8.00	2.14	2.00	
3417	1.55	2.61	4.16	4.10	7.08	1.78	1.12	8.86	8.00	10.08	10.00	7.07	7.00	
3418	0.91	0.65	1.56	1.65	4.88	2.08	3.36	6.96	8.00	10.32	9.00	2.27	2.00	
3532	1.28	1.04	2.32	1.65	4.59	3.79	3.47	8.38	8.00	11.85	9.00	1.80	2.00	
3419	1.83	1.25	3.08	3.29	3.54	4.24	2.67	7.78	7.00	10.45	8.00	6.37	7.00	
3533	1.29	2.15	3.44	3.29	3.67	3.13	3.14	6.80	7.00	9.94	8.00	7.26	7.00	
3420	0.85	0.75	1.60	1.65	4.83	2.23	3.39	7.06	8.00	10.45	9.00	2.13	2.00	
3534	0.92	1.04	1.96	1.65	5.55	2.45	2.45	8.00	8.00	10.45	9.00	2.25	2.00	
3421	.....	.....	2.74	2.47	.....	.....	.....	.....	.....	23.72	18.00	.....	.....
3422	0.97	1.29	2.26	2.47	4.00	4.78	3.01	8.78	9.00	11.80	10.00	2.15	2.00	
3535	1.09	1.15	2.24	2.47	7.24	2.09	2.19	9.33	9.00	11.52	10.00	2.22	2.00	
3423	0.43	1.77	2.20	2.47	6.92	0.21	3.32	7.13	6.00	10.45	7.00	10.39	10.00	
3424	0.29	0.71	1.00	0.82	5.60	1.82	1.48	7.42	6.00	8.90	7.00	2.08	2.00	
3425	0.42	0.41	0.83	0.82	3.22	4.56	3.02	7.78	8.00	10.80	9.00	2.85	3.00	
3426	1.11	1.37	2.48	2.47	3.11	3.62	3.01	6.73	8.00	9.84	10.00	3.93	4.00	
3536	1.27	1.19	2.46	2.47	7.08	3.27	1.98	10.25	8.00	12.33	10.00	4.51	4.00	
3427	0.76	0.79	1.55	1.65	3.22	5.01	2.73	8.23	9.00	10.96	10.00	1.81	2.00	
3537	0.89	0.67	1.56	1.64	4.71	2.89	3.36	7.60	9.00	11.96	10.00	2.25	2.00	
3428	0.63	0.45	1.08	0.82	4.21	3.26	2.00	7.47	6.00	9.47	7.00	6.48	6.00	
3429	.....	.....	.....	.....	6.06	3.67	2.26	9.73	10.00	11.99	11.00	2.25	2.00
3430	0.47	0.07	1.14	0.82	3.05	7.10	3.73	10.15	9.00	13.88	10.00	2.07	2.00	
3431	0.28	0.43	0.71	0.82	1.00	5.53	2.88	6.53	5.00	9.41	6.00	9.50	10.00	
3432	1.47	1.77	3.24	3.29	3.80	3.78	3.15	7.58	7.00	10.73	8.00	7.03	7.00	

DESCRIPTIVE LIST OF STATION SAMPLES, 1904.

Station number.	Manufacturer, place of business and brand.	Sampled at
3433	Stockbridge Potato Manure	Portland
3434	Stockbridge Seeding Down Manure.....	Bangor
3435	Monticello Grange Chemicals	Houlton
3436	Special Potato Manure for the Grange.....	Houlton
	E. FRANK COE CO., NEW YORK CITY, N. Y.	
3437	E. Frank Coe's Celebrated Special Potato Fertilizer	Bangor
3438	E. Frank Coe's Columbian Bone Superphosphate	Portland
3439	E. Frank Coe's Columbian Corn Fertilizer	Bangor
3440	E. Frank Coe's Columbian Potato Fertilizer...	Bangor
3441	E. Frank Coe's Excelsior Potato Fertilizer.....	Bangor
3442	E. Frank Coe's Grass and Grain Fertilizer	Bangor
3443	E. Frank Coe's High Grade Ammoniated Bone Superphosphate	Bangor
3444	E. Frank Coe's High Grade Potato Fertilizer . .	Bangor
3445	E. Frank Coe's New England Corn Fertilizer	Bangor
3446	E. Frank Coe's New Englander Potato Fertilizer.....	Bangor
3447	E. Frank Coe's Prize Brand Grain and Grass Fertilizer.....	Bangor
3448	E. Frank Coe's Red Brand Excelsior Guano....	Bangor
3538	E. Frank Coe's Red Brand Excelsior Guano.....	Portland
3449	E. Frank Coe's Standard Grade Ammo. Bone Superphosphate	Bangor
	JOHN WATSON CO., HOULTON, ME.	
3450	Watson's Improved High Grade Potato Manure. .	Houlton
	LISTER'S AGRICUL. CHEM. WORKS, NEWARK, N. J.	
3451	Lister's Animal Bone and Potash .	Portland
3539	Lister's Animal Bone and Potash.....	Bangor
3452	Lister's High Grade Special for Spring Crops.....	Portland
3453	Lister's Oncida Special.....	Portland
3454	Lister's Potato Manure.....	Portland
3540	Lister's Potato Manure	Bangor
3455	Lister's Pure Raw Bone Meal ...	Bangor
3456	Lister's Special Corn Fertilizer	Portland
3457	Lister's Special Potato Fertilizer	Portland
3458	Lister's Success Fertilizer	Portland
	NATIONAL FERTILIZER CO., BRIDGEPORT, CONN.	
3459	Chittenden's Ammoniated Bone Phosphate	Presque Isle ...
3460	Chittenden's Complete Root.....	Houlton
3461	Chittenden's Market Garden	Houlton
	NEW ENGLAND FERTILIZER CO., BOSTON, MASS.	
3462	New England Corn and Grain Fertilizer. ...	Bangor
3463	New England Corn Phosphate	Bangor
3541	New England Corn Phosphate	Portland
3464	New England High Grade Potato Fertilizer.....	Bangor
3465	New England Potato Fertilizer.....	Bangor
3466	New England Superphosphate.....	Bangor
3542	New England Superphosphate.....	Portland
	THE PARMENTER & PALSEY FERT. CO., PEABODY, MASS.	
3467	A. A. Brand Fertilizer	Presque Isle ...
3468	Aroostook Special Brand	Presque Isle ...
3469	Grain Grower Brand	Old Town
3471	P. & P. Potato Brand	Presque Isle ...
3472	Plymouth Rock Brand	Presque Isle ...
3473	Special Potato Brand	Presque Isle ...
3474	Star Brand Superphosphate	Bangor

ANALYSES OF STATION SAMPLES, 1904.

Station number.	NITROGEN.				PHOSPHORIC ACID.								POTASH.	
	Soluble in water.	Insoluble in water.	Total.		Soluble.	Reverted.	Insoluble.	Available.		Total.		Found.	Guaranteed.	
			Found.	Guaranteed.				Found.	Guaranteed.	Found.	Guaranteed.			
3433	1.53	1.63	3.16	3.29	2.23	3.86	2.09	6.09	6.00	8.18	7.00	9.58	10.00	
3434	0.71	1.67	2.38	2.47	4.26	3.80	1.90	7.06	6.00	8.96	9.00	10.62	10.00	
3435	1.07	1.51	2.58	2.50	6.95	1.57	1.77	8.52	8.00	10.29	12.00	4.29	4.00	
3436	0.63	0.71	1.34	1.50	4.26	5.91	1.59	10.17	9.00	11.76	12.00	13.35	12.00	
3437	0.83	0.93	1.76	1.65	6.59	3.41	1.68	10.00	8.00	11.68	9.50	4.92	4.00	
3438	0.77	0.83	1.60	1.20	8.72	1.49	1.29	10.21	8.50	11.50	10.50	2.63	2.50	
3439	0.61	0.79	1.40	1.23	7.51	2.23	1.48	9.74	8.50	11.32	10.50	2.70	2.50	
3440	0.53	0.83	1.36	1.23	7.89	1.99	1.28	9.88	8.50	11.16	10.50	2.56	2.50	
3441	1.46	0.69	2.15	2.50	6.41	1.75	1.68	8.16	7.00	9.84	9.00	7.43	8.00	
3442	0.76	1.01	1.77	0.80	7.66	1.13	2.95	8.79	8.50	11.74	10.00	2.61	1.50	
3443	1.63	0.77	2.40	1.85	9.23	1.35	1.86	10.58	9.00	12.44	13.00	2.57	2.25	
3444	1.99	0.79	2.78	2.40	6.62	1.75	1.61	8.37	7.50	9.98	.....	6.18	6.00
3445	0.35	0.69	1.04	0.80	7.00	2.18	1.35	9.18	7.50	10.53	8.50	3.21	3.00	
3446	0.35	0.69	1.04	0.80	7.62	1.40	1.71	9.02	7.50	10.73	8.50	3.10	3.00	
3447	.....	.....	.....	.....	7.15	2.86	4.43	10.01	10.50	14.44	12.00	3.31	2.00
3448	2.44	0.89	3.33	3.40	7.89	3.01	1.33	10.90	9.00	12.23	11.00	6.24	6.00	
3458	2.23	1.09	3.32	3.40	8.26	2.21	1.17	10.47	9.00	11.64	11.00	5.98	6.00	
3449	0.59	0.71	1.30	1.20	6.78	3.18	1.91	9.96	8.50	11.87	10.00	2.26	2.00	
3450	1.89	1.17	3.06	3.00	4.15	1.73	1.03	5.88	6.00	6.91	9.00	5.23	5.00	
3451	.....	.....	.....	.....	5.34	3.25	2.78	9.41	10.00	12.19	....	2.24	2.00
3459	.....	.....	.....	.....	6.01	4.87	1.75	10.88	10.00	12.63	.....	2.27	2.00
3452	0.73	0.99	1.72	1.65	3.21	5.24	2.48	8.45	8.00	10.93	10.00	9.70	10.00	
3453	0.53	0.57	1.10	0.82	2.93	4.32	1.38	7.25	7.00	8.63	8.00	1.43	1.00	
3454	2.11	1.19	3.30	3.30	3.83	3.36	2.67	7.19	8.06	9.86	9.00	7.68	7.00	
3540	0.90	1.78	2.68	3.30	4.15	3.16	3.14	7.31	8.00	10.45	9.00	6.88	7.00	
3455	.....	.....	2.37	2.68	.....	.....	.....	.....	.....	22.11	23.00	.....	.....
3456	0.71	1.21	1.92	1.65	5.84	2.85	2.16	8.69	8.00	10.85	9.00	3.18	3.00	
3457	0.11	0.83	1.94	1.65	5.77	3.01	2.42	8.78	8.00	11.20	9.00	3.29	3.00	
3458	0.51	0.87	1.38	1.24	6.14	2.93	2.25	9.07	9.00	11.32	11.00	2.23	2.00	
3459	1.44	1.29	1.73	1.70	4.61	6.68	0.88	11.29	8.00	12.17	10.00	2.51	2.00	
3460	1.46	1.79	3.25	3.30	6.86	3.42	1.98	9.17	8.00	11.15	10.00	6.62	6.00	
3461	1.53	1.15	2.68	2.40	4.86	1.30	1.62	6.16	6.00	7.78	8.00	5.20	5.00	
3462	0.63	0.73	1.36	1.22	5.26	1.81	0.87	7.07	7.00	7.94	8.00	2.21	2.00	
3463	0.54	0.97	1.51	1.64	5.66	1.09	2.78	5.75	8.00	8.53	9.00	2.93	3.00	
3541	0.79	0.83	1.62	1.64	3.29	4.96	2.02	8.25	8.00	10.27	9.00	3.17	3.00	
3464	1.41	1.09	2.50	2.46	4.94	4.45	2.05	9.43	8.00	11.48	9.00	6.16	6.00	
3465	0.99	0.97	1.96	1.64	6.30	1.26	0.73	7.56	7.00	8.29	8.00	4.15	4.00	
3466	1.29	0.97	2.26	2.46	4.51	4.46	1.98	8.97	9.00	10.96	10.00	4.20	4.00	
3542	1.04	1.18	2.22	2.46	6.86	2.90	1.45	9.76	9.00	11.21	10.00	4.23	4.00	
3467	2.28	1.25	3.53	4.10	2.23	5.82	1.06	8.05	7.00	9.11	8.00	8.80	8.00	
3468	3.19	0.71	3.90	3.70	3.99	2.94	1.44	6.93	7.00	8.37	8.00	9.95	10.00	
3469	0.35	0.63	0.98	0.82	3.56	1.54	2.90	5.10	7.00	8.05	8.00	2.00	2.00	
3471	0.91	0.91	1.82	1.64	2.07	3.17	4.31	5.24	6.00	9.55	7.00	6.10	6.00	
3472	1.31	0.95	2.26	2.47	1.91	6.73	3.39	8.64	8.00	12.03	9.00	4.31	4.00	
3473	2.17	0.95	3.12	3.29	3.47	4.13	1.61	7.61	8.00	9.22	9.00	7.27	7.00	
3474	0.67	0.81	1.48	1.64	2.06	4.63	3.53	6.69	7.00	10.22	8.00	2.24	2.50	

DESCRIPTIVE LIST OF STATION SAMPLES, 1904.

Station number.	Manufacturer, place of business and brand.	Sampled at
	PORTLAND RENDERING CO., PORTLAND, ME.	
3475	Bone Tankage.....	East Deering ..
	PROVINCIAL CHEM. FER. CO., LIMITED, ST. JOHN, N. B.	
3476	Potato Phosphate.....	Caribou
3543	Potato Phosphate.....	Fort Fairfield..
	RUSSIA CEMENT CO., GLOUCESTER, MASS.	
3477	Essex A1 Superphosphate.....	Caribou
3478	Essex Complete Manure for Corn, Grain and Grass.....	Bangor
3479	Essex Complete Manure for Potatoes, Roots and Vegetables..	Caribou
3480	Essex Corn Fertilizer.....	Bangor
3481	Essex Market Garden and Potato Manure	Caribou
3482	Essex XXX Fish and Potash	Presque Isle ...
	SAGADAHOC FERTILIZER CO., BOWDOINHAM, ME.	
3483	Aroostook Potato Manure	Bowdoinham ..
3484	Dirigo Fertilizer	Bowdoinham ..
3485	Sagadahoc High Grade Superphosphate.....	Bowdoinham ..
3486	Sagadahoc Special Potato Fertilizer	Bowdoinham ..
3487	Special Clover Fertilizer	Bowdoinham ..
3488	XX Chemicals.....	Bowdoinham :
3489	Yankee Fertilizer.....	Bowdoinham ..
3490	Acid Phosphate.....	Bowdoinham ..
3491	Muriate of Potash.....	Bowdoinham ..
3492	Nitrate of Soda.....	Bowdoinham ..
	SWIFT'S LOWELL FERTILIZER CO., BOSTON, MASS.	
3497	Swift's Lowell Animal Brand	Portland
3544	Swift's Lowell Animal Brand	Bangor
3498	Swift's Lowell Bone Fertilizer	Portland
3545	Swift's Lowell Bone Fertilizer	Bangor
3499	Swift's Lowell Cereal Fertilizer.....	Portland
3546	Swift's Lowell Cereal Fertilizer.....	Bangor
3500	Swift's Lowell Dissolved Bone and Potash... ..	Portland
3547	Swift's Lowell Dissolved Bone and Potash.	Bangor
3501	Swift's Lowell Empress Brand	Portland
3503	Swift's Lowell Potato Manure.....	Portland
3548	Swift's Lowell Potato Manure	Bangor
3504	Swift's Lowell Potato Phosphate	Portland
3549	Swift's Lowell Potato Phosphate	Bangor

FERTILIZER INSPECTION.

III

ANALYSES OF STATION SAMPLES, 1904.

Station number.	NITROGEN.				PHOSPHORIC ACID.								POTASH.	
	Soluble in water.	Insoluble in water.	Total.		Soluble.	Reverted.	Insoluble.	Available.		Total.		Found.	Guaranteed.	
			Found.	Guaranteed.				Found.	Guaranteed.	Found.	Guaranteed.			
3475	% 0.68	% 4.20	% 4.88	% 5.30	.....	% ....	% 12.06	% 4.21	% 7.00	% 16.27	% 15.00	.....	% ....
3476	0.57	1.15	1.72	1.23	6.03	2.18	5.04	8.21	8.00	13.25	.....	6.01	6.50
3543	0.57	1.07	1.64	1.23	6.06	2.65	5.82	8.71	8.00	14.53	. . .	6.02	6.50	
3477	....	1.32	1.32	1.00	2.11	7.84	3.50	9.95	7.00	13.45	9.00	1.85	2.00
3478	0.97	2.25	3.22	3.30	3.94	4.12	5.31	9.06	7.00	13.37	9.50	10.58	9.50	
3479	0.99	2.81	3.80	3.70	5.82	4.70	3.96	10.52	7.00	14.48	9.00	8.22	8.50	
3480	0.49	1.69	2.18	2.00	3.64	4.61	3.89	8.25	8.50	12.14	10.50	3.15	3.00	
3481	0.65	1.61	2.26	2.00	4.43	3.56	4.53	7.99	8.00	12.52	10.00	5.25	5.00	
3482	0.67	1.71	2.38	2.10	3.81	4.18	5.63	7.99	9.00	13.62	12.10	2.28	2.25	
3483	1.11	0.27	1.38	1.10	5.53	0.41	3.33	5.94	6.00	9.27	7.00	4.27	4.00	
3484	0.05	0.62	0.67	1.25	6.22	3.90	2.64	10.12	6.00	12.76	10.00	5.32	2.00	
3485	0.99	0.65	1.64	2.00	6.52	6.05	1.50	12.57	6.00	14.07	7.00	6.56	3.00	
3486	1.45	0.33	1.78	2.25	7.10	0.35	2.42	7.45	7.00	9.87	8.00	8.57	8.00	
3487	0.35	0.39	0.74	0.85	3.21	5.68	1.40	8.89	7.00	10.29	8.00	.....	.....
3488	6.27	1.15	7.42	7.00	. . .	.....	3.93	4.27	.....	8.20	7.00	9.35	8.00
3489	0.49	0.17	0.66	0.40	6.71	2.51	1.72	9.22	7.00	10.94	8.00	2.98	2.00	
3490	....	.....	.....	. . .	11.67	5.05	0.51	16.72	15.00	17.23	17.00	.....	.....
3491	....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	50.04	57.00
3492	15.20	....	15.20	15.00	.....	.....	.....	.....	.....	15.20	.....	.....	.....
3497	1.22	1.13	2.35	2.46	6.62	2.42	1.81	9.04	9.00	10.85	10.00	4.35	4.00	
3544	1.11	1.31	2.42	2.46	4.93	5.16	2.18	10.09	9.00	12.27	10.00	4.10	4.00	
3498	0.75	0.79	1.54	1.64	4.15	2.96	2.14	7.11	8.00	19.25	9.00	3.00	3.00	
3545	0.81	0.87	1.68	1.64	4.78	4.00	1.79	8.78	8.00	10.57	9.00	3.07	3.00	
3499	0.13	0.69	0.82	0.81	2.55	2.13	1.14	4.68	7.00	5.82	8.09	1.32	1.00	
3546	0.17	0.61	0.78	0.81	5.02	2.66	0.66	7.68	7.00	8.34	8.00	1.27	1.00	
3500	0.47	1.17	1.64	1.64	6.69	1.60	1.28	8.29	9.00	9.57	10.00	2.37	2.00	
3547	0.61	1.11	1.72	1.64	6.03	3.95	2.21	9.98	9.00	12.19	10.00	1.98	2.07	
3501	0.24	0.55	0.79	1.23	5.74	1.11	0.45	6.85	7.00	7.30	10.00	2.05	2.00	
3503	0.54	0.97	1.51	1.64	3.60	2.93	1.40	6.53	7.00	7.93	8.00	4.07	4.00	
3548	0.95	1.11	2.06	1.64	4.18	3.93	2.18	8.11	7.00	10.29	8.00	3.85	4.00	
3504	1.45	1.11	2.56	2.46	4.94	2.52	1.95	7.46	8.00	9.41	9.00	6.15	6.00	
3549	1.19	1.11	2.30	2.46	4.48	4.26	2.11	8.74	8.00	10.85	9.00	6.28	6.00	

[Continued from page 101.]

should appear when one considers that the comparison is made with the manufacturers' minimum guarantees. In the case of the company which puts the largest number of brands on the market, 45 per cent of the samples analyzed were below the guarantee in one or more of the fertilizing ingredients. With another large company putting twenty-two brands on the market, 57 per cent of the samples examined were also below the guarantee in at least one constituent. In the case of still another company, only four of the fourteen samples examined were found below the guarantee, and the differences in these samples were insignificant. The results on the remaining samples were uniformly above the guarantees, showing that the goods were well mixed. The other companies, putting a less number of brands upon the market, for the most part make no better showing, the results of the analyses being variable.

Most of the companies keep up the practice of giving an elastic guarantee, as for instance, one finds printed on the package: Nitrogen, 3 to 4 per cent. Available phosphoric acid, 6 to 8 per cent. Potash, 4 to 5 per cent. One might expect goods with such guarantees to average 3 1-2, 6 1-2 and 4 1-2 per cent, but legally the company could be holden for only the minimum figures. An inspection of the tables this year would seem to indicate that the minimum figures are all they are working for and the maximum ones should no longer be printed.

Such wide variations as are given in some instances indicate one of two things, carelessness in methods of manufacture, or inability to make goods of uniform composition. If the manufacturer with all his knowledge of the materials used and improved machinery at his command cannot make goods of more uniform composition than some of those here reported upon, then he can do no better at mixing than the farmer with a shovel on the barn floor, and thorough mixing can no longer be urged as an argument for buying mixed goods.

